

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Amendment of Parts 1, 21, 73, 74 and 101 of the)	WT Docket No. 03-66
Commission's Rules to Facilitate the Provision of)	RM-10586
Fixed and Mobile Broadband Access, Educational)	
and Other Advanced Services in the 2150-2162)	
and 2500-2690 MHz Bands)	
)	
Part 1 of the Commission's Rules – Further)	WT Docket No. 03-67
Competitive Bidding Procedures)	
)	
Amendment of Parts 21 and 74 to Enable)	MM Docket No. 97-217
Multipoint Distribution Service and the)	
Instructional Television Fixed Service Amendment)	
of Parts 21 and 74 to Engage in Fixed Two-Way)	
Transmissions)	
)	
Amendment of Parts 21 and 74 of the)	WT Docket No. 02-68
Commission's Rules with Regard to Licensing in)	RM-9718
the Multipoint Distribution Service and in the)	
Instructional Television Fixed Service for the)	
Gulf of Mexico)	
)	
To: The Commission		

COMMENTS OF NEXTNET WIRELESS, INC.

NextNet Wireless, Inc. ("NextNet") submits these comments in response to the notice of proposed rulemaking in the above-captioned proceeding.¹ NextNet is a manufacturer of high-speed fixed wireless services equipment for various operating bands including MMDS/ITFS frequencies. This proceeding presents an ideal opportunity for the Commission to provide much needed direction for operators in the 2500-2690 MHz band ("MDS/ITFS band") and to advance

¹ See *Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands*, Notice of Proposed Rulemaking and Memorandum Opinion and Order, 18 FCC Rcd 6722 (2003) ("*MDS/ITFS NPRM*").

its policy of ensuring the availability of broadband services to rural and underserved areas. In establishing new or revised rules for multichannel multipoint distribution services (“MDS”) and instructional television fixed services (“ITFS”) in the MDS/ITFS band, the Commission should protect fixed wireless services in the band, foster spectral efficiency, and ensure technological neutrality. Achieving these objectives will allow broadband fixed services to flourish and extend their benefits to customers in rural and underserved areas that lack either wireline or wireless Internet access.

I. THE COMMISSION SHOULD PROTECT AND FACILITATE MDS/ITFS SYSTEMS PROVIDING BROADBAND FIXED SERVICES

The MDS/ITFS band provides premium spectrum for the provision of broadband fixed services and offers a significant opportunity for introducing meaningful competition to DSL and cable modem duopolies.² Billions of dollars have been invested to implement MDS and ITFS systems that can offer high-speed, broadband fixed services.³ Accordingly, the Commission recognized the importance of protecting those investments and adopting rules that foster the continued development of broadband fixed services in the MDS/ITFS band. For example, when the Commission added a mobile allocation to the MDS/ITFS band, it promised that “if fixed and

² See *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, Third Report, 17 FCC Rcd 2844, 2874-75 ¶ 72 (2002) (“*Advanced Services Third Report*”). Although fixed wireless systems in other bands can be used to provide high-speed services, they are not as advantageous as MDS/ITFS systems. For example, because of the propagation characteristics of the 24 GHz, 39 GHz, and local multipoint distribution service bands, fixed wireless systems in those bands offer a service radius of two to five miles from any individual transmitter. See *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993*, Eighth Report, 18 FCC Rcd 14783, App. A, A-2 (2003) (“*Eighth CMRS Report*”). MDS/ITFS systems, on the other hand, can provide a service radius of five to 35 miles from a transmitter. *Id.* Furthermore, fixed wireless systems such as wireless communications service (“WCS”) systems in the 2305-2320 MHz and 2345-2360 MHz bands have access to a significantly smaller amount of spectrum than MDS/ITFS systems.

³ See FCC Staff Report issued by the Office of Engineering and Technology, Mass Media Bureau, Wireless Telecommunications Bureau, and International Bureau, *Spectrum Study of the 2500-2690 MHz Band: The Potential for Accommodating Third Generation Mobile Systems*, Final Report, ET Docket No. 00-258, rel. Mar. 30, 2001 (“*FCC Final Report*”).

mobile sharing of the band continues to be infeasible in the long run, our service rules would ensure the protection of *fixed* operations.”⁴ Those service rules are needed to permit widespread deployment of broadband fixed services in the MDS/ITFS band and to facilitate the same level of competition for fixed wireless services that exists for commercial mobile radio services.

The Commission previously observed that many MDS and ITFS operators are exploring options to implement low-power, cellular-type systems because “they are more spectrally efficient than high-powered systems, can support provision of high-data-rate services to a large number of subscribers, can help overcome obstacles to line-of-sight service, and can more readily support mobile or portable services.”⁵ The presence of legacy high-power systems in the MDS/ITFS band and the lack of adequate interference protection requirements, however, have severely hindered full-scale deployment of low-power systems.

NextNet supports adoption of appropriate signal strength limits, emissions masks, and other technical requirements to accommodate low-power, cellular-type systems that can more efficiently use spectrum to provide broadband fixed services. The Commission in fact has adopted a similar approach for other services, such as the upper and lower 700 MHz services, that permit flexible spectrum use.⁶

⁴ See *Amendment of Part 2 of the Commission Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advances Wireless Services, including Third Generation Wireless Services*, First Report and Order and Memorandum Opinion and Order, 16 FCC Rcd 17222, 17238 ¶ 30 (2001) (emphasis added) (“*3G First R&O*”).

⁵ *MDS/ITFS NPRM*, 18 FCC Rcd at 6735 ¶ 26.

⁶ See, e.g., *Reallocation and Service Rules for the 698-746 MHz Spectrum Band (Television Channels 52-59)*, Report and Order, 17 FCC Rcd 1022, 1063-1070 ¶¶ 102-22 (2001) (“*Lower 700 MHz Order*”).

II. THE MDS/ITFS BAND SHOULD ACCOMMODATE BOTH TDD AND FDD TECHNOLOGIES

In addition to establishing reasonable technical limits to protect low-power, fixed broadband systems from interference, the Commission should ensure technological neutrality by adopting an MDS/ITFS band plan that fully supports both time division duplex (“TDD”) and frequency division duplex (“FDD”) technologies. Because TDD and FDD systems offer different advantages, the Commission should avoid any band plan that favors one technology over the other.⁷

None of the band plans discussed in the *MDS/ITFS NPRM* is well-suited for both TDD and FDD systems. For example, although the Coalition Proposal in theory permits TDD and FDD systems to co-exist on the same frequencies, the Coalition readily admits that co-existence “creates a heightened risk of co[-]channel interference.”⁸ To remedy this problem, the Commission should reserve three separate spectrum blocks for TDD and FDD systems, such that two of those blocks would be reserved for FDD and separated by the remaining third block, which would be reserved for TDD. To further ensure equal treatment of both technologies, the total amount of spectrum reserved for TDD should be the same as for FDD.

This band segmentation is consistent with the Commission’s approach in establishing a band plan for the lower 700 MHz services. There, in order to promote technological neutrality, the Commission reserved paired spectrum to support FDD operations and unpaired spectrum to

⁷ TDD systems transmit signals in both directions using the same frequencies and are advantageous for handling high-speed, asymmetric data traffic. In contrast, FDD systems transmit signals in the upstream and downstream directions using separate channels and typically are used for handling voice traffic.

⁸ See Wireless Communications Association International, Inc., National ITFS Association, and Catholic Television Network, *A Proposal for Revising the MDS and ITFS Regulatory Regime*, RM-10586 at 28 (filed Oct. 7, 2002) (“Coalition Proposal”).

support TDD operations.⁹ The Commission can advance the same objective of ensuring technological neutrality here by reserving separate spectrum blocks for TDD and FDD operations in the MDS/ITFS band.

III. CONCLUSION

Based on the foregoing, the Commission should adopt service and technical rules that are fairly designed to facilitate full implementation of next-generation MDS and ITFS systems that can offer a broad range of fixed broadband services, particularly to rural and underserved areas.

Respectfully submitted,

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⁹ See *Lower 700 MHz Order*, 17 FCC Rcd at 1053-54, 1056-57 ¶¶ 76, 84.

CERTIFICATE OF SERVICE

I, Ann Chester-Jones, hereby certify that a copy of the foregoing **COMMENTS** has been served this 8th day of September 2003 via electronic mail on the following:

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